

Application Number: 10/525,693  
Amendment Dated: February 4, 2009  
Reply to Office Action Dated August 4, 2008

### **REMARKS**

This amendment is responsive to the Office Action dated August 4, 2008 for which three (3) month period of response was given. A Petition and fee for a three (3) month extension of time hereby accompanies this paper. An additional fee for one (1) additional claim is believed to be due. As such, the Commissioner is hereby authorized to treat this paper as authorization to charge this additional claim fee to, and any necessary additional Petition fees, to Deposit Account No. 50-0959, Attorney Docket No. 089498.0444.

Claims 1 through 21 are pending in the present application upon entry of the above amended claims. Claims 1, 5, 15 through 18 and 20 have been amended to more clearly state the nature of the present invention. Support for the amendments to claims 1, 5, 15 through 18 and 20 exist in the specification and the Figures as filed. Claim 21 has been added. Support for newly added claim 21 also exists in the specification and the Figures as filed. Thus, no new matter has been added. Accordingly, entry and consideration of the amended claim set and the remarks which follow, is believed due and is respectfully requested.

#### **I. Claim Objection:**

Claims 5 and 15 were objected to as containing a typographical error. Specifically, the Examiner pointed out that word "homia" appears to be in error. Given this, claims 5 and 15 have been amended to replace the word "homia" with the correct word "holmia". As is known to those of skill in the art, the word "holmia" refers to a holmium oxide. Accordingly, withdrawal of the objection to claims 5 and 15 is believed due and is respectfully requested.

#### **II. The 35 U.S.C. § 112, Second Paragraph, Rejection:**

Claims 16 through 18 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner has

Application Number: 10/525,693  
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pointed out that a claim is indefinite when it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

In light of the above, claims 16 through 18 have been amended to more clearly point out the nature and scope of the present invention. Given the amendments made to claims 16 through 18, withdrawal of the objection to claims 16 through 18 is believed due and is respectfully requested.

III. The 35 U.S.C. § 101 Rejection:

Claim 16 has been rejected under 35 U.S.C. § 101 for claiming a use but failing to set forth any steps involved in the process, resulting in an improper process claim under 35 U.S.C. § 101. In light of the above, claim 16 has been amended to more clearly point out the nature and scope of the present invention. Given the amendments made to claims 16 through 18, withdrawal of the 35 U.S.C. § 101 rejection of claim 16 is believed due and is respectfully requested.

IV. The 35 U.S.C. § 102(b) Rejection:

Claims 1 through 4, 7, 8, 15, and 17 through 20 have been rejected under 35 U.S.C. § 102(b) over Rose et al. (United States Patent No. 5,447,786). Rose et al relates to a selective infrared line emitter formed from a nonwoven composite of fibers of at least one rare earth metal oxide dispersed and interlocked in a network of sinter-bonded quartz fibers having an emissivity of not more than about 0.1 within the range of 0.7 to 5 microns.

Regarding Rose et al., the Examiner points out that Rose et al. discloses a high surface area carbon fiber which is coated with a rare earth oxide. As is further pointed out by the Examiner, the fibers of Rose et al. can have diameters in the range of 5 to 30 microns.

However, as can be seen therein, the rare earth oxide fibers of Rose et al. are formed by impregnating a high surface area fiber with a rare earth nitrate or other suitable compound. The high surface area fiber is then subsequently burned out or gasified under conditions where the rare earth compound impregnating the high surface area fiber is

Application Number: 10/525,693  
Amendment Dated: February 4, 2009  
Reply to Office Action Dated August 4, 2008

converted to an oxide. (See column 6, lines 21 through 27). As would be apparent to those of skill in the art upon reading and understanding the disclosure contained in Rose et al., the process of Rose et al. will leave "hollow oxide-based tube" fibers. On the contrary, claim 1 as amended clearly states that the nanofibers of the present invention are substantially solid and formed via an electrospinning process.

For at least the above reasons, Rose et al. fails to disclose, teach or suggest each and every element of the present invention. That is, Rose et al. fails to disclose, teach or suggest substantially solid electrospun nanofibers that are coated or doped with at least one optical material and the various advantages associated with such nanofibers. Accordingly, Rose et al. fails to anticipate claims 1 through 4, 7, 8, 15, and 17 through 20. As such, withdrawal of the 35 U.S.C. § 102(b) rejection of claims 1 through 4, 7, 8, 15 and 17 through 20 is believed due and is respectfully requested.

V. The 35 U.S.C. § 103(a) Rejection:

Claim 5 has been rejected under 35 U.S.C. § 103(a) over Rose et al. (United States Patent No. 5,447,786) as applied to claim 1, and further in view of Goldstein et al. (United States Patent No. 5,356,487). The teachings and shortcomings of Rose et al. are detailed above.

Goldstein et al. relates to, among other things, a process for the preparation of a porous ceramic burner that includes drawing a solution which contains metal oxide fibers onto a burner skeleton by use of a vacuum to form a base fiber layer. In one instance, the base fiber layer is dried, after which an additional metal oxide fiber layer, the outer fiber layer, is added over the base fiber layer. The out layer can be formed from various rare-earth compounds. Given the disclosure contained in Goldstein et al. fails to cur5e the deficiencies of Rose et al.

As is note above, claim 1 as amended (and therefore claim 5) clearly states that the nanofibers of the present invention are substantially solid and formed via an electrospinning process. As can be seen from the disclosure contained therein, Goldstein et al. clearly fails to disclose, teach or suggest electrospun fibers that are either coated or

Application Number: 10/525,693  
Amendment Dated: February 4, 2009  
Reply to Office Action Dated August 4, 2008

doped with at least one optical material. Given this, the combination of Rose et al. and Goldstein et al. fails to render obvious claim 5. As such, withdrawal of the 35 U.S.C. § 103(a) rejection of claim 5 is believed due and is respectfully requested.

Claims 9 through 14 have been rejected under 35 U.S.C. § 103(a) over Rose et al. (United States Patent No. 5,447,786) as applied to claim 1, and further in view of Milstein et al. (United States Patent No. 5,601,661). The teachings and shortcomings of Rose et al. are detailed above.

Milstein et al. relates to the use of materials, preferably reticulated solids that are cylindrical in shape, which exhibit photonic band gaps in the near infrared and visible regions of the optical spectrum as thermophotovoltaic emitter materials.

As is note above, claim 1 as amended (and therefore claims 9 through 14) clearly states that the nanofibers of the present invention are substantially solid and formed via an electrospinning process. As can be seen from the disclosure contained therein, Milstein et al. clearly fails to disclose, teach or suggest any type of fiber, let alone electrospun fibers that are either coated or doped with at least one optical material. Given this, the combination of Rose et al. and Milstein et al. fails to render obvious claims 9 through 14. As such, withdrawal of the 35 U.S.C. § 103(a) rejection of claims 9 through 14 is believed due and is respectfully requested.

Claim 6 has been rejected under 35 U.S.C. § 103(a) over Rose et al. (United States Patent No. 5,447,786) as applied to claim 1, and further in view of Tatarchuk et al. (United States Patent No. 5,102,745). The teachings and shortcomings of Rose et al. are detailed above.

Tatarchuk et al. relates to composite materials that are formed from a network of a first fiber and at least a second fiber, where at least the first fibers have a multiplicity of bonded junctions at their point of crossing. As disclosed therein, the fibers of Tatarchuk et al. are formed from metals or metal alloys which are formed into structures that can capture catalytic metals or metal compounds.

Application Number: 10/525,693  
Amendment Dated: February 4, 2009  
Reply to Office Action Dated August 4, 2008

As is note above, claim 1 as amended (and therefore claim 6) clearly states that the nanofibers of the present invention are substantially solid and formed via an electrospinning process. As can be seen from the disclosure contained therein, Tatarchuk et al. clearly fails to disclose, teach or suggest any type of fiber, let alone electrospun fibers that are either coated or doped with at least one optical material. Given this, the combination of Rose et al. and Tatarchuk et al. fails to render obvious claim 6. As such, withdrawal of the 35 U.S.C. § 103(a) rejection of claim 6 is believed due and is respectfully requested.


VI. Conclusion:

Accordingly, reconsideration and withdrawal of the claim objection, the 35 U.S.C. § 112, second paragraph, rejection, the 35 U.S.C. § 101 rejection, the 35 U.S.C. § 102(b) rejection, and the 35 U.S.C. § 103(a) rejections of claims 1 through 20 are believed due and are respectfully requested.

For at least the foregoing reasons, claims 1 through 21 of the present application are believed to be in condition for allowance, and a Notice of Allowance is respectfully requested.

Should the Examiner wish to discuss any of the foregoing in more detail, the undersigned attorney would welcome a telephone call.

Respectfully submitted,

  
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